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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,243

02/06/2006

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1508-10 PCT/US

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EXAMINER

THOMAS, ERIC W

ART UNIT

PAPER NUMBER

2831

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/567,243	<b>Applicant(s)</b> ROH ET AL.	
	<b>Examiner</b> Eric Thomas	<b>Art Unit</b> 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

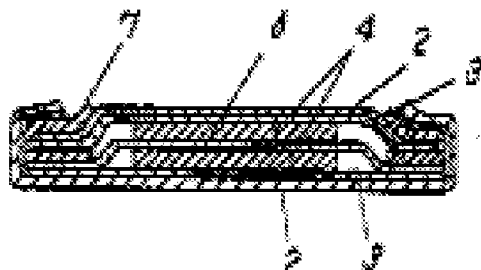
1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, 5 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 60-182123 ('123).

Fig. 7



'123 discloses in fig. 7, a supercapacitor which comprises two electrodes in which each of the two electrodes is comprised of a current collector and an electrode active material adhered to the current collector, a separator positioned between the two electrodes, an electrolyte and a package, wherein the current collector is a metal thin plate having a conductive metal oxide layer thereon and the electrode active material is adhered on a surface of the conductive metal oxide layer.

Regarding claim 2, '123 discloses the conductive metal oxide layer is formed of a material selected from the group consisting of zinc oxide and tin oxide.

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Regarding claim 4, '123 discloses the metal thin plate is an aluminum thin plate.

Regarding claim 5, '123 discloses the claimed invention. The limitations, "wherein at least one of the two electrodes is obtained by dipping a metal thin plate into a solution into which a conductive metal oxide is dissolved", "drying the obtained metal thin plate with hot wind in order to form a conductive metal oxide layer on the metal thin plate", and "coating the metal thin plate having the conductive metal oxide layer thereon with a slurry containing an electrode active material, followed by drying and pressing to form an electrode active material layer on a surface of the conductive metal oxide layer" are methods of forming the capacitor. The method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight. In re STEPHENS, WENZL, AND BROWNE, 145 USPQ 656 (CCPA 1965)

3. Claims 1-2, 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 02-001104 ('104).

'104 discloses a supercapacitor which comprises two electrodes in which each of the two electrodes is comprised of a current collector and an electrode active material adhered to the current collector, a separator positioned between the two electrodes, an electrolyte and a package, wherein the current collector is a metal thin plate having a conductive metal oxide layer thereon and the electrode active material is adhered on a surface of the conductive metal oxide layer.

Regarding claim 2, '104 discloses the conductive metal oxide layer is formed of a material selected from the group consisting of zinc oxide and tin oxide.

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Regarding claim 4, '104 discloses the metal thin plate is an aluminum thin plate.

Regarding claim 5, '104 discloses the claimed invention. The limitations, "wherein at least one of the two electrodes is obtained by dipping a metal thin plate into a solution into which a conductive metal oxide is dissolved", "drying the obtained metal thin plate with hot wind in order to form a conductive metal oxide layer on the metal thin plate", and "coating the metal thin plate having the conductive metal oxide layer thereon with a slurry containing an electrode active material, followed by drying and pressing to form an electrode active material layer on a surface of the conductive metal oxide layer" are methods of forming the capacitor. The method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight. In re STEPHENS, WENZL, AND BROWNE, 145 USPQ 656 (CCPA 1965)

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

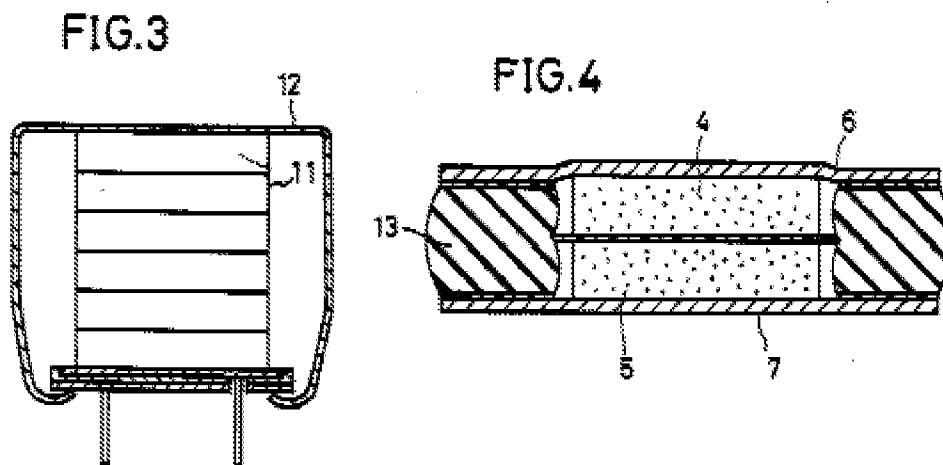
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,783,723) in view of JP 01-227418 ('418).



Watanabe et al. disclose in fig. 3, 4, a supercapacitor (12) which comprises two electrodes (4-7) in which each of the two electrodes is comprised of a current collector (6, 7) and an electrode active material (4, 5) adhered to the current collector, a separator positioned between the two electrodes, an electrolyte and a package (12), wherein the current collector is a metal thin plate (aluminum).

Watanabe et al. disclose the claimed invention except that the current collector having a conductive metal oxide layer thereon and the electrode active material is adhered on a surface of the conductive metal oxide layer.

'418 discloses a supercapacitor comprising a current collector having a conductive metal oxide layer thereon, and an electrode active material is adhered on a surface of the conductive metal oxide layer.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the capacitor of Watanabe et al. by forming a conductive metal oxide layer between the electrode active material and current collector as taught by '418, since such a modification would form a capacitor having low internal resistance.

Regarding claim 2, '418 discloses the conductive metal oxide layer is formed of a material selected from the group consisting of zinc oxide and tin oxide.

Regarding claim 3, '418 discloses the claimed invention except that the conductive metal oxide layer is formed of zinc oxide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the conductive metal oxide layer from zinc oxide, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 4, Watanabe et al. disclose the metal thin plate is an aluminum thin plate.

Regarding claim 5, Watanabe et al. discloses the claimed invention. The limitations, "wherein at least one of the two electrodes is obtained by dipping a metal thin plate into a solution into which a conductive metal oxide is dissolved", "drying the obtained metal thin plate with hot wind in order to form a conductive metal oxide layer on the metal thin plate", and "coating the metal thin plate having the conductive metal

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oxide layer thereon with a slurry containing an electrode active material, followed by drying and pressing to form an electrode active material layer on a surface of the conductive metal oxide layer” are methods of forming the capacitor. The method of forming the device is not germane to the issue of patentability of the device itself.

Therefore, this limitation has not been given patentable weight. In re STEPHENS, WENZL, AND BROWNE, 145 USPQ 656 (CCPA 1965)

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 60-182123 ('123).

'123 discloses the claimed invention except that the conductive metal oxide layer is formed of zinc oxide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the conductive metal oxide layer from zinc oxide, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 02-001104 ('104).

'104 discloses the claimed invention except that the conductive metal oxide layer is formed of zinc oxide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the conductive metal oxide layer from zinc oxide, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Thomas whose telephone number is 571-272-1985. The examiner can normally be reached on Monday - Friday 5:30 AM - 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric Thomas/  
Primary Examiner, Art Unit 2831